# Snow Updating

# for the NWS River Forecast System Streamflow Model

# Why???

- Long term ESP runs don’t always match water supply numbers
- Orographic nature of basin can make it difficult to accurately accumulate snowpack

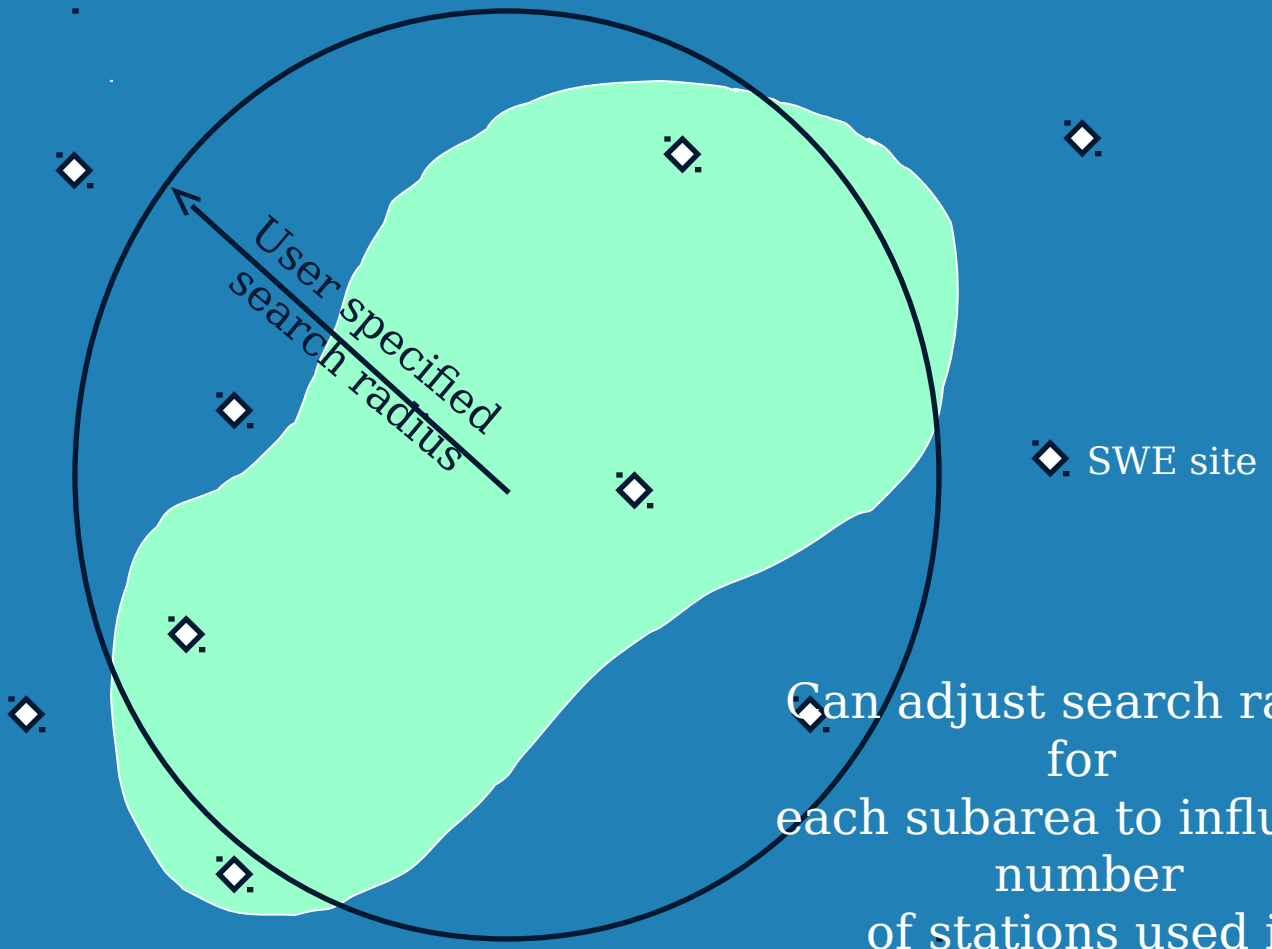
# NWSRFS Snow Model

- Energy Balance
- Inputs of Precipitation and Temperature
- Lumped model split into subareas of like characteristics
- Tracks snow accumulation, areal extent of snow cover and heat storage of pack

# Snow Updating Method

- Estimate missing data
- Regresses historical simulated swe against historical observed point swe
- Computes swe for each subarea

# Snow Updating Method




Can adjust search radius
for
each subarea to influence
number
of stations used in
regression

# Constraints

- Runs on first of the month only
- Requires at least 10 years of data
- Must have NWSRFS

# Output provided

- Current simulated swe
- Computed swe from regression
- Selected equation and RMSE
- Range and average simulated swe
- Sites used and relative weighting
- Error bounds
- Number of years used in regression

# Future Work

- Clean up historical record
- Graphical capabilities
- Areal extent of snow cover
- Calibration component